

ABSTRACT

High purity cobalt with a very few content of impurities such as copper, a method of manufacturing thereof, and high purity cobalt targets are provided. The cobalt containing impurities such as copper is dissolved in a hydrochloric acid solution, and the concentration of the hydrochloric acid of the aqueous solution of cobalt chloride is adjusted to 0.1 kmol/m³ to 3 kmol/m³. Then, cobalt is added in the aqueous solution of cobalt chloride, and an inert gas is injected into the solution with agitating, in order to convert the divalent copper ions contained in the aqueous solution of cobalt chloride to monovalent copper ions. Then, the aqueous solution of cobalt chloride is fed into a column filled up with the anion exchange resins. Cobalt is not absorbed on the anion exchange resins although the monovalent copper ions are absorbed on the anion exchange resins. Therefore, copper can be separated from the aqueous solution of cobalt chloride. And then, the aqueous solution of cobalt chloride is evaporated to dryness and heated to 623 K to 873 K in a hydrogen atmosphere to generate cobalt.

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